We claim:

1. A method for scheduling events occurring at non-integral times in a simulation model for modeling analog and mixed signal digital-analog physical circuits and systems in a digital computer, the method comprising:

assigning scheduled times to the events;

using a hash function based on the scheduled times of the events, storing the events in buckets, each bucket containing at least one event;

associating the scheduled times assigned to the events in the buckets with the buckets;

organizing the scheduled times into a heap;

removing an earliest scheduled time from the heap;

simulating the events in the bucket associated with the earliest scheduled time;

re-organizing the remaining scheduled times into a new heap; and

repeating the steps of removing a scheduled time, simulating the events, and re-organizing the remaining scheduled times until the heap is empty.

2. A method according to claim 1, the method further comprising:

beginning the mixed-signal simulation;

determining the events from the mixed-signal simulation; and

determining the scheduled times for when the events are to occur.

3. A method according to claim 1, wherein simulating the events includes:

determining new events of the mixed-signal simulation;

determining the scheduled times for when the events are to occur; and

placing the new determined events into buckets using the hash function based on the scheduled times of the events.

4. A method according to claim 3, wherein placing the new determined events includes:

placing a first new determined event into a new bucket;

associating the scheduled time assigned to the first new determined event with the new bucket;

adding the new scheduled time associated with the new bucket to the heap; and

re-organizing the scheduled times into a new heap.

5. A method for scheduling events with associated scheduled times occurring at non-integral time intervals, the method comprising:

storing events in buckets according to their scheduled times; and

organizing the scheduled times into a structure, wherein the structure is constructed and arranged to allow easy location of an earliest scheduled time.

6. A method according to claim 5, wherein storing events includes using a non-order preserving hash table to place the events into the buckets according to the scheduled times associated with the events.

7. A method according to claim 5, wherein each bucket is assigned a specific scheduled time and stores all events assigned that scheduled time.

8. A method according to claim 5, wherein the structure containing the scheduled times is organized as a heap.

9. A method according to claim 8, wherein the method further comprises:

removing a scheduled time from the heap; and

re-organizing the remaining scheduled times into a new heap.

10. A method according to claim 9, wherein removing a scheduled time includes performing the events in the bucket associated with the removed scheduled time.

11. A method according to claim 10, wherein performing the events includes checking to see if the bucket associated with the removed schedule time is empty.

12. A method according to claim 5, wherein the method further comprises:

adding a new scheduled time to the heap; and

re-organizing the scheduled times into a new heap.

13. A method according to claim 5, wherein the method further comprises removing a de-scheduled event from a second bucket.

14. A computer-readable medium containing a program for scheduling events with associated scheduled times occurring at non-integral time intervals, the program comprising:

storage software to store events in buckets according to their scheduled times; and

organization software to organize the scheduled times into a structure, wherein the structure is constructed and arranged to allow easy location of an earliest scheduled time.

15. A computer-readable medium containing a program according to claim 14, the storage software including hash software to use a non-order preserving hash table to place the events into the buckets according to the scheduled times associated with the events.

16. A system for scheduling events with associated scheduled times occurring at non-integral time intervals, the system comprising:

a computer;

a plurality of buckets stored in the computer, each bucket storing events to occur at a scheduled time; and

a structure organizing the scheduled times, wherein the structure is constructed and arranged to allow easy location of an earliest scheduled time.

17. A system according to claim 16, wherein the structure containing the scheduled times is organized as a heap.

18. A system according to claim 16, wherein the computer includes a mixed-signal simulator for generating events and assigning times to generated events.